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| 10/598,011 | 08/15/2006 | Nicolo Steinrisser | P30190 | 9108 |
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| EXAMINER AMIRI, NAHID | | | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/598,011

Applicant(s)

STEINRISSER, NICULO

Examiner

NAHID AMIRI

Art Unit

3679

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2008.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-31 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 12, 13 and 19 is/are allowed.
6) ☒ Claim(s) 11, 14-18, 20-22 and 24-31 is/are rejected.
7) ☒ Claim(s) 23 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SF/08)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

In view of Applicant's Amendment received 4 March 2008, amendments to the claims have been entered. Claims 1-10 are canceled. Claims 11-31 are pending.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 11, 14, 15, 18, 20, 22, 24, 25, 30, and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No. 3,367,142 Groves et al.

With respect to claim 11, Groves et al. disclose a groove profile (Fig. 5) for a positive hub-shaft connection comprising a hub (16) having a plurality of grooves (G, constituted by two adjacent groove) with an essentially quadrilateral groove cross section; a shaft (11) having a plurality of grooves with an essentially quadrilateral groove cross section.; and at least one rib (R) radially projecting from one of the grooves (G) of the hub (16) towards one of the grooves (constituted by two adjacent grooves of the shaft. 11) of the shaft (11).

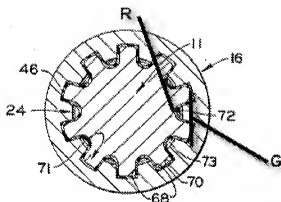


FIG. 5

With respect to claims 14 and 15, Groves et al. disclose (Fig. 5) that the at least one rib (R) runs parallel to a flank of the groove from which the rib (R) projects; wherein the at least one rib (R) runs along an entire length of the groove (G) from which the rib projects (R).

With respect to claim 18, Groves et al. disclose (Fig. 5) that a radius of a support surface of the at least one rib (R) imparts a connection between the hub grooves (G) and the shaft grooves that is one of free from play and under initial stress with respect to a longitudinal axis of the hub (16) or the shaft. 911).

With respect to claim 20, Groves et al. disclose (Fig. 5) that the essentially quadrilateral groove cross section is an essentially rectangular groove cross section.

With respect to claim 22, Groves et al. disclose telescopic tube (Fig.5) for drive shafts comprising an outer tube (16) having a plurality of grooves with an essentially quadrilateral groove cross section; an inner tube (11) having a plurality of grooves (G, constituted by two

adjacent groove of the inner tube 11) with an essentially quadrilateral groove cross section, the groove profile having at least one rib (R) radially projecting from one of the grooves of the inner tube towards one of the groove of the outer tube

With respect to claim 24, Groves et al. disclose (Fig. 5) that the inner tube and the outer tube (11, 16) are hollow bodies each with an approximately uniform profile thickness; and wherein the essentially quadrilateral groove cross section is an essentially rectangular groove cross section.

With respect to claim 25, Groves et al. disclose (Fig. 5) that the essentially quadrilateral groove cross section is an essentially rectangular groove cross section.

With respect to claim 30, Groves et al. disclose a groove profile (Fig. 5) for a positive hub-shaft connection comprising a hub (16) having a plurality of grooves (G, constituted by two adjacent groove) with an essentially quadrilateral groove cross section; a shaft (11) having a plurality of grooves with an essentially quadrilateral groove cross section.; and at least one rib (R) radially projecting from one of the grooves (G) of the hub (16) towards one of the grooves (constituted by two adjacent grooves of the shaft. 11) of the shaft (11); and wherein the at least one rib (R) is formed in one piece from a material of the groove from which the at least one rib (R) project.

With respect to claim 31, Groves et al. disclose (Fig. 5) that the at least one rib (R) is formed in one piece from a material of the groove from which the at least one rib (R) project.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter

as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 16, 17, 21, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Groves et al.

With respect to claims 16, 17, 21, and 26, Groves et al. disclose the claimed invention except that the at least one rib has a trapezoidal cross section tapering outwards and has a maximum width of 50% or 25% of a width of a corresponding groove from which the rib projects; and wherein the essentially quadrilateral groove cross section is an essentially trapezoidal groove cross section. Applicants admit in specification, paragraph 009, line 2, that the groove is rectangular or trapezoidal. Therefore, there is no criticality with respect to a specific shape of rib and groove being claimed. Also, it is conventional design practice to routinely experiment to arrive at desired values for a particular intended use. It would have been an obvious matter of design choice as determined through routine experimentation and optimization to provide the trapezoidal cross section of Groves et al. with a width of 50% or 25% of a width of a corresponding groove in order to provide the groove profile with a specific desirable dimensions and strength.

Claims 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Groves et al. as applied to claims 11, 14, 15, 18, 20, 22, 24, 25, 30, and 31 above, and further in view of Pub. No. US 2002/0040835 A1 Fukukawa et al.

With respect to claims 27 and 28, Groves et al. disclose the claimed invention except for a method of producing a groove profile comprising conforming surface of one of the hub and the shaft with a profile mandrel through engagement with one or more profile rollers; and profiling the surface of one of the hub and the shaft to form the at least one rib. Fukukawa et al. (Fig. 6) teach a method of producing a groove profile by conforming surface of one of the hub (23) and the shaft (22) with a profile mandrel (3) through engagement with one or more profile rollers (5); and profiling the surface of one of the hub (23) and the shaft (22) to form the at least one rib (3d); and wherein periodic impacting engaging of the one or more profile rollers (3) with a surface of one of the hub (23) and the shaft (22). It would have been obvious to one of ordinary

skill in the art at the time of invention was made to provide the profile groove of Groves et al. with the step method of Fukukawa et al. in order to produce a groove profile.

Response to Arguments

Applicant's arguments with respect to claims 11, 14-18, and 20-28 have been considered but are moot in view of the new ground(s) of rejection based on the new interpretation of US Patent No. 3,367,142 Groves et al. as advanced in the rejections, above.

Allowable Subject Matter

Claims 12, 13, and 19 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

As to claim 12, lines 8-13, the closest prior art, Groves et al. (US 3,367,142), discloses the claimed system with the exception of "a radially inward surface of the groove of the hub forms a hub groove head and a radially outward surface of the groove of the hub forms a hub groove root, and wherein a radially inward surface of the groove of the shaft forms a shaft groove root and a radially outward surface of the groove of the shaft forms a shaft groove head, the at least one rib projects radially from one of the hub groove head, the hub groove root, the shaft groove head, and the shaft groove root".

Claims 23 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

As to claim 23, lines 2-7, the closest prior art Groves et al. (US 3,367,142) discloses the claimed system with the exception of "a radially inward surface of the groove of the hub forms a hub groove head and a radially outward surface of the groove of the hub forms a hub groove root, and wherein a radially inward surface of the groove of the shaft forms a shaft groove root

and a radially outward surface of the groove of the shaft forms a shaft groove head, the at least one rib projects radially from one of the hub groove head, the hub groove root, the shaft groove head, and the shaft groove root”.

There is no teaching or suggestion, absent the applicants' own disclosure, for one having ordinary skill in the art at the time the invention was made to modify the connector device as disclosed by Groves et al. (US 3,367,142) to have the above mentioned elemental features.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nahid Amiri whose telephone number is (571) 272-8113. The examiner can normally be reached on 8:30-5:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on (571) 272-7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nahid Amiri
Examiner
Art Unit 3679
June 20, 2008

/Daniel P. Stodola/
Supervisory Patent Examiner, Art Unit 3679